



TE TĀHUHU O TE MĀTAURANGA

Ministry of Education

Hei Tautoko i te Marautanga Pāngarau

# Te Tauanga



## He Kupu Whakataki

Ko te kaupapa ia o tēnei pukapuka, ko te āta whakaatu i ngā **ariā matua** o tēnei wāhanga matua o te pāngarau, te Tauanga, me ngā whanaketanga ako hei ekenga taumata mā ā tātou ākongā. Āpiti atu ki tēnā, ko te whakaatu i ētahi ngohe e hāngai ana ki tēnā taumata ki tēnā taumata o te marautanga, me ngā hononga ki te **Mahere Tau**<sup>1</sup> me ngā Whanaketanga Pāngarau<sup>2</sup>.

main ideas

Number Framework

He mea tuhi tēnei pukapuka i te tau 2010 hei āwhina i te whakaūnga o Ngā Whanaketanga Pāngarau i ō tātou kura reo Māori. Ko te whakaaro kia noho tauira tonu tēnei pukapuka mō tētahi wā, waihoki ka tāpiri haerehia ētahi atu ngohe, ētahi atu whakamārama ka puta i ngā kura me ngā kaitakawaenga i ngā tau e rua e tū mai ana.

Huri ki hea, huri ki hea, kitea ai te Tauanga e whakamahia ana hei whakamārama i tō tātou ao. Hei tauira, ko ngā Tauanga e hāngai ana ki:

- te **huarere** – te rahi o te ua, ngā haora e whiti ana te Rā, te kaha o te hau i ngā marama o te tau kua pahure;
- te pōti kāwanatanga – te maha o ngā kaipōti e hiahia ana ki tēnā **rōpū tōrangapū**, ki tēnā;
- te hākinakina – te maha o ngā piro a tēnā tīma a tēnā i te whakataetae NRL;
- te hauora – te ōrau o tēnā iwi o tēnā iwi e pāngia ana ki tētahi mate;
- te reo Māori – te maha o ngā tāngata e matatau ana ki te kōrero, me te rerekē haere o tērā i roto i ngā tau.

weather

political party

Mā te Tauanga e mārama ai tātou ki tētahi kaupapa. He āwhina nui tērā ki te whakatau huarahi e anga whakamua ai i roto i taua kaupapa. Ia rā, puta ai he kōrero tauanga i ngā nūpepa, i te pouaka whakaata, i ngā mōheni rānei, ā, ko te āhei ki te whakamāori i aua tauanga i runga i te **tirohanga arohaehae** tētahi pūkenga tino whaihua. Ka whai wāhi anō hoki te tauanga ki ētahi tūranga mahi whānui, pērā i te whakahaere pakihi, ngā tūranga pūtaiao, me te whakahaere hākinakina.

critical eye

E tino kitea ana ētahi atu o ngā whenu pāngarau i roto i te mahi Tauanga. Hei tauira:

### Te Tau:

Ka tatauria ētahi momo **raraunga**, ā, ka whakaaturia ki ngā momo kauwhata. I ētahi wā, ka wāwāhia ētahi raraunga ki ōna rōpū, ā, ka āta kitea ngā **pānga tau**, pēnei i te nui ake, te iti iho, te **huatango**, me te ōrite. Hei tauira:

data

numeric relationship,  
difference

<sup>1</sup> Tirohia: *Te Poutama Tau, Pukapuka Tuatahi*. Te Whanganui-a-Tara: Te Tāhuhu o te Mātauranga. (2007).

<sup>2</sup> Tirohia: *Whanaketanga Pāngarau: He aratohu mā te pouako*. Te Whanganui-a-Tara: Te Tāhuhu o te Mātauranga. (2010).

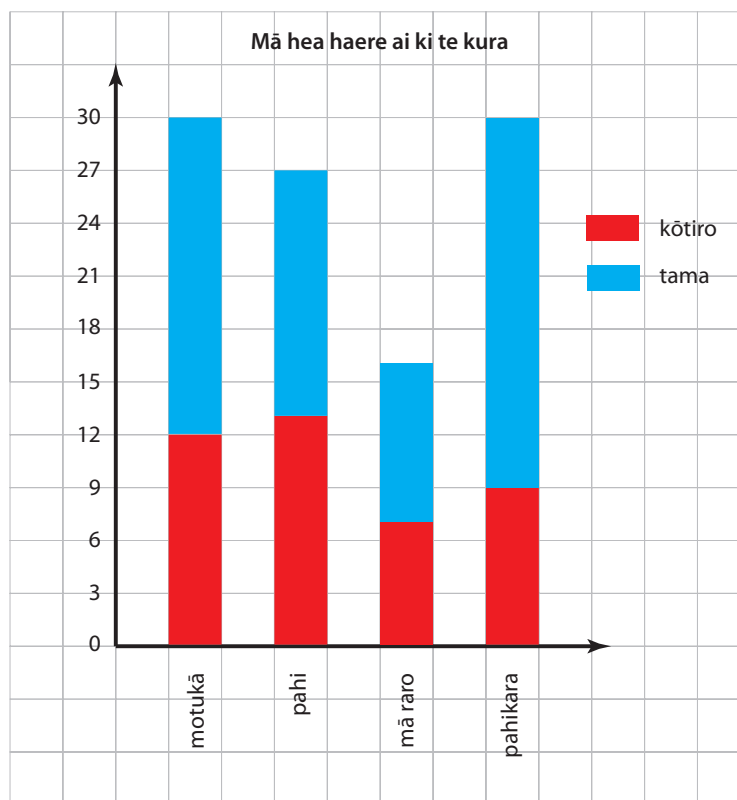
Ka kohia he raraunga e pā ana ki te haere a tētahi rōpū tamariki ki te kura. Ka wehea ki te kōtiro me te tama, ā, ka taturia ā-rimatia ngā raraunga:

Mā hea haere ai ki te kura

	kōtiro	tama
motukā		
pahi		
mā raro		
pahikara		

Ina whakaaturia ngā raraunga ki tētahi **kauwhata pou whakaapaapa**, e tino kitea ai ngā **pānga**:

stacked bar graph relationships



Hei tauira o ngā pānga tau e kitea ana:

- He tokomaha kē atu ngā tama i ngā kōtiro i tēnei rōpū tamariki.
- He iti ake ngā kōtiro e haere ana mā raro i ngā kōtiro e haere ana mā runga pahi.
- He ōrite te maha o ngā tamariki e haere ana mā runga motukā me ngā tamariki e haere ana mā runga pahikara.

Ka tino whakamahia te hautau me te ōrau hei whakatairite raraunga.

Hei tauira:

Mā hea haere ai ki te kura			
	te hautau o ngā kōtiro	te hautau o ngā tama	te hautau o te katoa
motukā	$\frac{12}{41} = 29\%$	$\frac{18}{62} = 29\%$	$\frac{30}{103} = 29\%$
pahi	$\frac{13}{41} = 32\%$	$\frac{14}{62} = 23\%$	$\frac{27}{103} = 26\%$
mā raro	$\frac{7}{41} = 17\%$	$\frac{9}{62} = 15\%$	$\frac{16}{103} = 16\%$
pahikara	$\frac{9}{41} = 22\%$	$\frac{21}{62} = 34\%$	$\frac{30}{103} = 22\%$

Hei tauira o ngā pānga tau e kitea ana:

- He tino nui ake te ōrau o ngā tama e haere ana mā runga pahikara i te ōrau o ngā kōtiro.
- He ōrite te hautau o ngā tama me ngā kōtiro e haere ana mā runga motukā.

### Te Ine

He nui ngā raraunga e ahu mai ana i te ine i tētahi āhuatanga.

Hei tauira:

Ka whakatakotoria te tāpaetanga kōrero, he tawhiti ake te whiu pōro a te hunga tamatāne, tērā i te hunga kōtiro o tētahi rōpū tamariki. Ka kohia he raraunga hei taunaki i tēnei tāpaetanga kōrero. Arā, ka inea te tawhiti o te whiu pōro a te hunga tamariki nei.

assertion

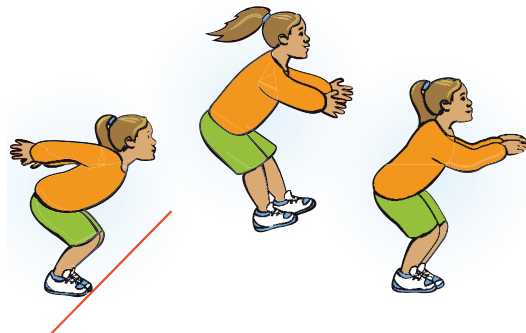
evidence



### Te Taurangi

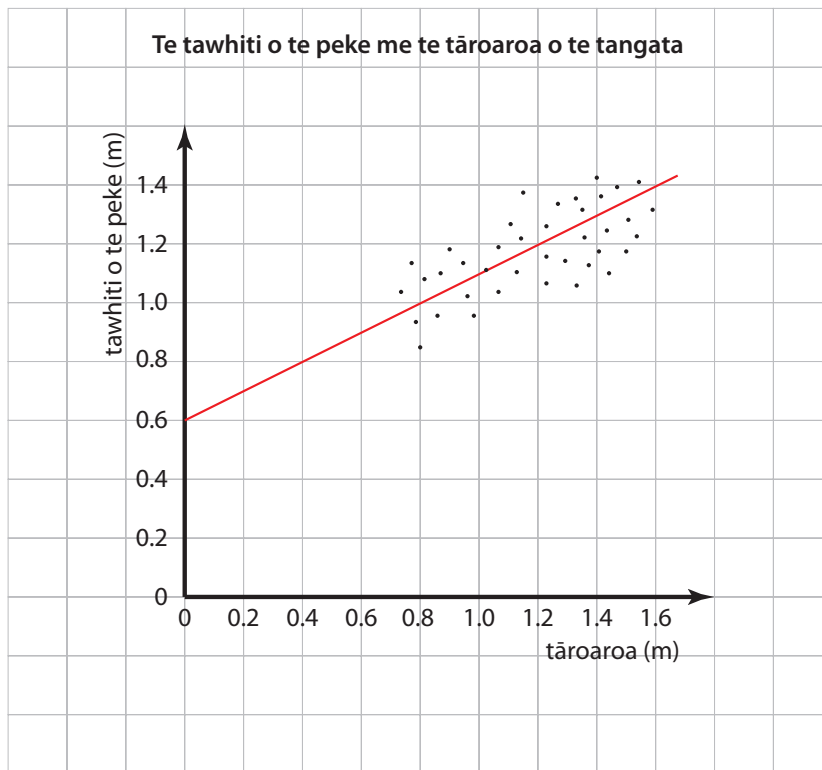
Ka whakamahia ngā tikanga o te taurangi hei whakaatu i ngā pānga e puta ana i tētahi huinga raraunga. Hei tauira:

data set



Ka inea te tāroaroa o ia tamaiti me te tawhiti o tana peke. Ka tuhia he ira ki tētahi kauwhata hei tohu i ia tamaiti, e kitea ai te pānga o te tāroaroa me te tawhiti o te peke. Ka tuhia hoki he rārangi hei whakaatu i te **ia matua** o ngā raraunga. Ka kīia he kauwhata marara tēnei.

main trend



Ko te **whārite taurangi** o te rārangi where o te kauwhata, ko te  $p = \frac{1}{2}t + 0.6$ :

algebraic equation

- $p$  = te tawhiti o te peke
- $t$  = te tāroaroa o te tamaiti
- $\frac{1}{2}$  = te **rōnaki** o te rārangi
- 0.6 = te **haukotinga** i te tuaka pou

slope  
intercept

Ka taea te whārite taurangi te whakamahi hei tātai i te tawhiti o te peke tērā pea ka tutuki i tētahi tamaiti hou:

- Mēnā 1.2 te tāroaroa o te tamaiti hou, tērā pea ko tōna peke ko te:  

$$p = \frac{1}{2} \times 1.2 + 0.6$$

$$= 1.2 \text{ mita}$$

Ahakoia tēnei tātaitanga taurangi, ko ngā tikanga tauanga e mea ana, arā kē atu ngā āhuatanga hei tohu i te roa o te peke a tētahi tamaiti, pērā i tōna taumaha, tōna pakeke pea, me tōna ngākaunui ki te korikori tinana.

## **Hei Whakamihi**

Nā He Kupenga Hao i te Reo ngā tuhinga o tēnei pukapuka. E whakamihi ana ki ngā puna kōrero e whai ake nei, inā te ohonga ake o te hinengaro.

*Te Reo Pāngarau: Putanga Tuarua.* (2010). Papaioea: He Kupenga Hao i te Reo.

Van de Walle, J.A. (2007). *Elementary and Middle School Mathematics: Teaching Developmentally*. Boston: Pearson.

Ngā rauemi katoa o Te Poutama Tau

Ngā rauemi o <http://www.nzmaths.co.nz/>

## Te Tauanga: Ngā Ariā Matua

1. Ko tēnei mea te **raraunga** kei te pū o te mahi tauanga. Ko te raraunga, he kohinga **pārongo**, he huinga tau, huinga inenga rānei e pā ana ki tētahi kaupapa. Hei tauira o te raraunga:
  - Ngā whakaaro o tētahi rōpū tāngata e pā ana ki tētahi whakaari pouaka whakaata.
  - Ngā wā i oti ai i tētahi rōpū tāngata tētahi omanga.
  - Ngā tāroaroa o tētahi hunga tamariki.
  - Te momo kai e manakohia ana e tētahi rōpū tāngata.
2. Mā te raraunga e mārama ai te tangata ki te kaupapa o aua raraunga. Hei āwhina anō tēnei ki te kōkiri whakamua i te kaupapa. Hei tauira:
  - Ko ngā raraunga e pā ana ki tētahi tīma whutupōro hei āwhina i te kaiako kia aro ki ngā wāhanga hei whakapakari i te tīma (ākene pea ko te **rutu**, ko te kawē whakamua i te pōro, te **kakari** rānei).
  - Ko ngā raraunga e pā ana ki te reo Māori hei āwhina i ngā rōpū hāpai ki te whakatau i ngā kaupapa e kaha ake ai te kōrerotia o te reo (pērā i te pakeke o te hunga e ngoikore ana ki te ako, ki te kōrero i te reo – me aro ki taua hunga ngā mahi whakatairanga).
3. Ka kohia he raraunga hei whakautu i tētahi pātai, hei tūhura rānei i tētahi **tāpaetanga kōrero** e pā ana ki tētahi kaupapa. Hei tauira pātai:
  - Ko wai te rōpū tōrangapū ka tū hei kāwanatanga hei te pōtitanga e tū mai ana ā kō kō ake nei?Hei tauira tāpaetanga kōrero:
  - He kaha ake te hunga wāhine ki te kōrero i te reo i te hunga tāne.
4. Mēnā he rahi rawa te **taupori** o tētahi kaupapa hei kohi raraunga, ka kohia he raraunga mai i tētahi **tīpakonga** o taua kaupapa. E tika ana kia whakaatanga mai te kaupapa e te tīpako. Hei tauira:
  - He rahi rawa te kaupapa ‘te iwi Māori’ hei kohi raraunga e pā ana ki te whakamahinga o te reo Māori, nō reira ka tīpakona te 1,000 tāngata pea hei uiui. E tika ana kia rite te whai wāhi atu o ngā rōpū maha ki te tīpako, pērā i te wahine, te tāne, te tamariki, te taiohi, te mātua me te kaumātua, te hunga noho tāone, te hunga noho tuawhenua me ētahi noa atu.
5. Ko te **whakarōpū** te hīkoi tuatahi ki te āta whakaraupapa i ngā raraunga, e mārama ai ngā āhuatanga o aua raraunga. Hei tauira:
  - Ka whakarōpūngia ngā raraunga e pā ana ki te kōrerotia o te reo Māori ki ngā rōpū pēnei i ēnei: te tāne me te wahine; ngā rōpū pakeke pērā i te tamariki, te taiohi, te mātua me te kaumātua; te wāhi noho; te iwi; me ētahi noa atu.

data  
information

tackle  
scrum

assertion

population  
sample

classify





## Ngā Momo Raraunga

### Raraunga matatahi

Kotahi anake te **taurangi** o roto i ngā raraunga. Hei tauira, ko te tāroaroa o tētahi hunga tamariki:

univariate data  
variable

tangata	tāroaroa
Pine	125cm
Hinewai	132cm
Arapeta	115cm

### Raraunga matarua

E rua ngā taurangi o roto i ngā raraunga. Hei tauira, ko te tāroaroa me te taumaha o tētahi hunga tamariki:

bivariate data

tangata	tāroaroa	taumaha
Pine	125cm	43kg
Hinewai	132cm	54kg
Arapeta	115cm	45kg

### Raraunga matatini

He nui ake i te rua ngā taurangi o roto i ngā raraunga. Hei tauira, ko te tāroaroa, te taumaha me te pakeke o tētahi hunga tamariki:

multivariate data

tangata	tāroaroa	taumaha	pakeke
Pine	125cm	43kg	8 tau
Hinewai	132cm	54kg	10 tau
Arapeta	115cm	45kg	7 tau

### Raraunga whakarōpū

Ka wehewehea ngā raraunga ki ētahi rōpū. Hei tauira, ko te wehewehe i ngā tāroaroa tamariki ki ētahi rōpū, pēnei i te wahine me te tāne:

category data

	tāroaroa		
	iti ake i te 110cm	kei waenga i te 110cm me te 120cm	kei runga ake i te 120cm
wahine	3	7	5
tāne	6	4	2

### Raraunga tatau

Ko ngā raraunga e taea ana te tatau. Hei tauira, ko te maha o ngā tamariki he iti ake i te kotahi mita te tāroaroa.

numeric data

**Raraunga motumotu**

discrete data

Ko ngā raraunga e taea ana te whakaatu hei tauoti. Hei tauira, ko te maha o ngā tāngata.

**Raraunga motukore**

continuous data

Ko ngā momo raraunga e taea ana ngā uara kei waenga i ngā tauoti. He inenga te nuinga o ēnei momo raraunga. Hei tauira, ko te tāroaroa, ko te wā, ko te paemahana.

**Raraunga houanga**

time-series data

Ko ngā raraunga ka hua mai i te ine i tētahi āhuatanga i te takanga o te wā. Hei tauira, ko te ine i te tāroaroa o tētahi pēpi i ia marama.

## Ngā Momo Whakaari Raraunga

He maha ngā momo **whakaari raraunga**, he kauwhata te nuinga, ā, he mea nui kia mōhio te ākonga ki te tūhura, ki te **whakamāori** i ngā kauwhata, e mārāma pai ai rātou ki te āhua o ngā raraunga.

data display  
interpret

Ina whakaaturia he raraunga ki te kauwhata, he māmā te kite atu i ēnei āhuatanga:

- te **hora** o ngā raraunga
- ngā **āhuatanga kōhure** o ngā raraunga
- mēnā e **rāpoi** ana ngā raraunga
- ngā **mōwaho** o ngā raraunga
- te **ia** o ngā raraunga
- mēnā e **pūmau** ana te pānga o tētahi **taurangi** ki tētahi
- mēnā e **manei** ana ngā raraunga.

spread  
distinctive feature  
cluster  
outlier  
trend  
consistent, variable  
fluctuate

E rua ngā **tuaka** o te nuinga o ngā kauwhata, ā, ka whakaaturia tētahi taurangi ki ia tuaka. Ko tā te kauwhata he whakaatu i te pānga o tētahi taurangi ki tētahi.

axis

E tika ana kia tapaina te kauwhata, kia tapaina hoki ngā tuaka.

## Kauwhata whakaahua

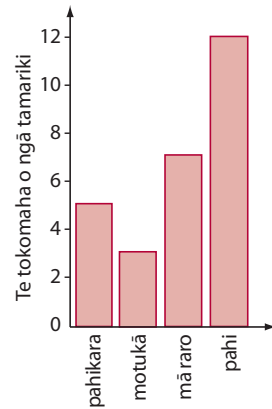
Ka whakamahia he whakaahua, he tohu rānei hei whakaatu i te rahi, te auau rānei o ia rōpū raraunga. Hei tauira:

Te marama o te rā whānau	Te tokomaha
Kohitātea	4
Huitanguru	2
Poutūterangi	1
Paengawhāwhā	2
Haratua	3
Pipiri	1
Hōngongoi	5
Hereturikōkā	3
Mahuru	1
Whiringa ā-nuku	2
Whiringa ā-rangi	1
Hakihea	3

## Kauwhata pou

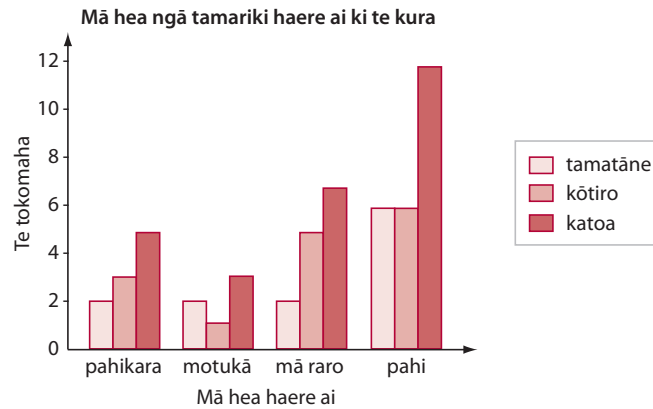
E rua ngā tuaka o te kauwhata pou. Ko te tuaka pae hei whakaatu i ngā rōpū raraunga. Ko te tuaka pou hei whakaatu i te auau, te uara, te rahi rānei o ia rōpū raraunga. Ka tuhia he pou mō ia rōpū raraunga, ko te teitei o te pou hei whakaatu i te auau. Hei tauira:

Mā hea ngā tamariki haere ai ki te kura



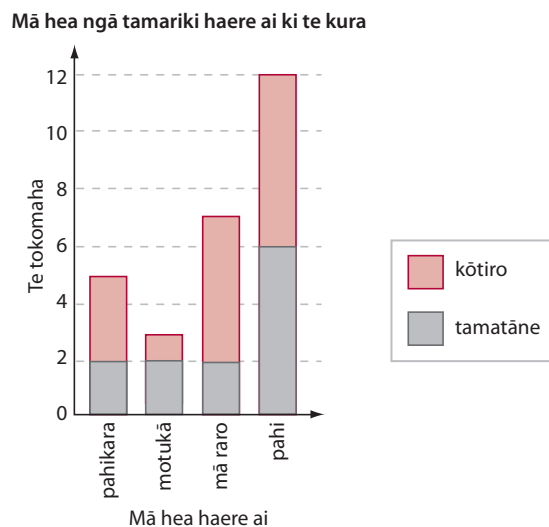
### Kauwhata pou hiato

Mō te kauwhata pou hiato, e rua, nui ake rānei ngā pou hei whakaatu i ngā kōrero mō ia rōpū raraunga. Hei tauira, ko ngā tūmomo waka e haere ai te hunga tamatāne me te hunga kōtiro ki te kura:



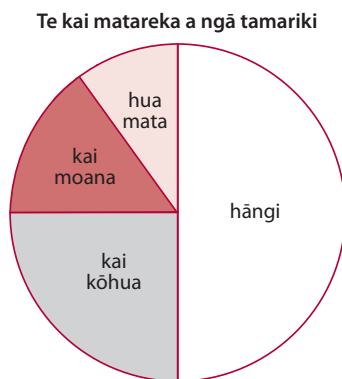
### Kauwhata pou whakaapaapa

Mō te kauwhata pou whakaapaapa, ka wāwāhia ngā pou hei whakaatu i ngā wehenga o ngā rōpū raraunga. Mā tēnei momo kauwhata e whakatairitea ai ia wehenga o ngā rōpū raraunga ki te katoa o te rōpū. Hei tauira, kua wehea ngā pou o tēnei kauwhata hei whakaatu i te tamatāne me te kōtiro. Ko te katoa o te pou, koia ko ngā tamariki katoa:



### Kauwhata porowhita

Ka whakamahia he porowhita hei whakaatu i te rahi, te auau rānei o ētahi rōpū raraunga. Ka wehea te porowhita ki ētahi pewanga hei whakaatu i te hautanga, te ōrau ranei o ia rōpū raraunga. Ko te rahi o te pewanga he rite ki te hautanga o te rōpū raraunga e hāngai ana. He pai tēnei kauwhata hei whakatairite i tētahi rōpū raraunga ki te katoa o ngā raraunga.



### Kauwhata tāhei

Ka wehea he tāhei hei whakaatu i te auau, te rahi rānei o ia rōpū raraunga. He pai tēnei kauwhata hei whakatairite i te hautanga o ia rōpū raraunga ki te katoa o ngā raraunga. Hei tauira:



### Kauwhata rautō

I tēnei momo kauwhata, ka raupapahia ngā raraunga tau e pā ana ki tētahi kaupapa. Ko tētahi wāhanga o ia raraunga tau ka whakaaturia ki te 'tō' o te kauwhata (pērā i ngā tekau), ko tētahi wāhanga ki ngā 'rau' o te kauwhata (pērā i ngā kotahi). Hei tauira, koia nei ngā tapeke hahau pōro a ētahi tāngata 25 i tētahi whakataetae. E whakaaturia ana ngā tekau (mai i te 60 ki te 100) ki te 'tō' o te kauwhata. Ka raupapahia ngā kotahi ki ngā 'rau', arā, ki te taha o ia tekau:

Ngā tapeke hahau pōro

10	0, 1, 4
9	1, 4, 4
8	1, 2, 2, 3, 3, 4, 5, 7, 8
7	1, 2, 3, 4, 5, 6, 7, 8
6	8

te tō (e whakaatu ana i ngā tekau)

ngā rau (e whakaatu ana i ngā kotahi, me te raupapa anō o ngā tapeke)

### Kauwhata rautō hiato

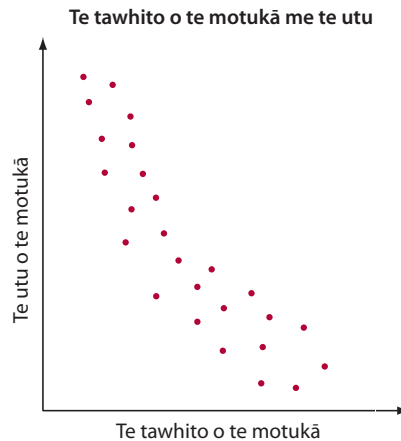
I te kauwhata rautō hiato, ka wehea ngā raraunga ki ētahi rōpū e rua hei whakatairiterite. Hei tauira:

Te tāroaroa o ngā tamatāne me ngā kōtiro (cm)

Ngā tamatāne		Ngā kōtiro
	18	1
	17	3, 6
3	16	0, 1, 1, 3, 8
5, 5, 4, 3, 0, 0	15	0, 1, 5, 6
2, 5, 5, 1	14	3, 3, 4
8, 6, 5	13	8

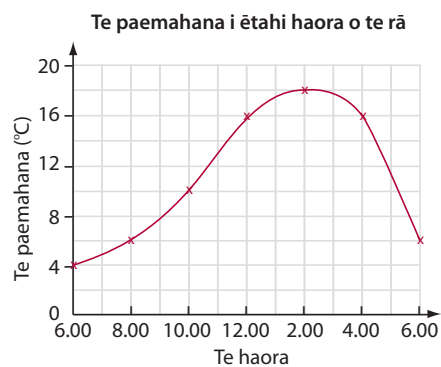
### Kauwhata marara

Ka whakamahia tēnei momo kauwhata hei whakaatu i te pānga o ētahi taurangi e rua. Mā tēnei momo kauwhata e kitea ai te kaha, te ngoikore rānei o te pānga, ā, mēnā he pānga tōrunga, tōraro rānei. Hei tauira, e kitea ana te pānga tōraro kei waenganui i te tawhito o te motukā me tana utu:



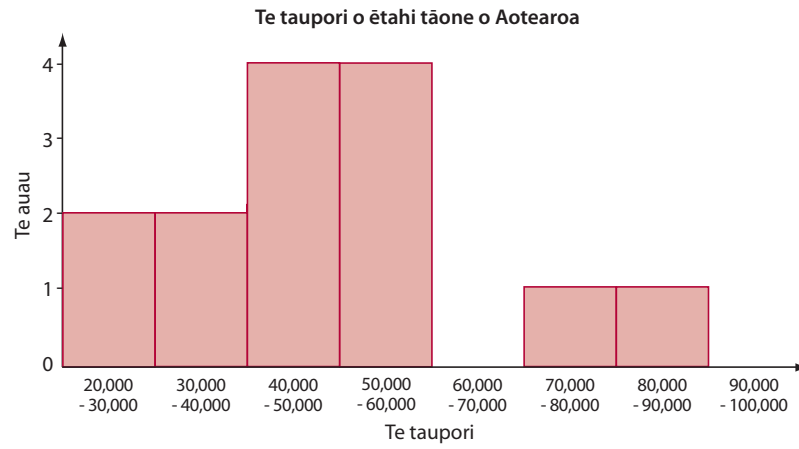
### Kauwhata rārangi

Ka whakamahia te rārangi hei whakaatu i te pānga o ētahi taurangi e rua. Mā te rārangi e ngāwari ai te kitea o te ia o te pānga. Hei tauira, i tēnei kauwhata rārangi e kitea ana te pānga o te haora o te rā me te paemahana:



### Kauwhata pouhere

He āhua rite tēnei momo ki te kauwhata pou, engari ka piri tahi ngā pou i runga anō i te motukore o ngā raraunga. Hei tauira:



## **Te Tūhuratanga Tauanga**

Ko te tūhuratanga tauanga tētahi wāhanga matua o tēnei whenu o te marautanga. E rima ngā wāhanga o te tūhuratanga tauanga, e whakaaturia ana ki te whakaahua e whai ake nei (he mea tiki atu i te pae ipurangi: [www.censusatschool.org.nz](http://www.censusatschool.org.nz))

I te wāhanga tuatahi, ka whakatauria te kaupapa hei tūhura, arā, ka whakatakotoria tētahi pātai mō te kaupapa, he tāpaetanga kōrero rānei, me te huarahi kimi raraunga hei whakautu i te pātai.

Ko te wāhanga tuarua, he āta whakamahere i te huarahi kimi raraunga. Hei tauira, ko te whakatau i te hunga ka uiuitia, ngā pātai ka tukuna, me te huarahi kohikohi i ngā whakautu ki aua pātai.

Ko te wāhanga tuatoru ko te kohikohi i ngā raraunga.

Ko te wāhanga tuawhā, he tūhura i ngā raraunga, he hanga whakaari raraunga, he tiro tiro i ngā āhuatanga kōhure o aua raraunga.

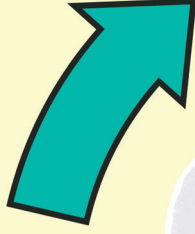
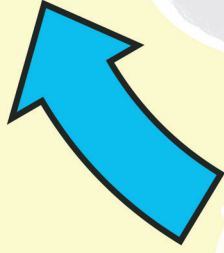
Ko te tuarima, he whakautu i te pātai, he whakaputa kōrero rānei mō te tāpaetanga kōrero i runga anō i ngā whakakitenga ka puta i ngā raraunga. Ka waihanga hoki he pātai atu anō hei tūhura, me te arohaehae i te pono me te tika o ngā hiko katoa o te tūhuratanga.



# Te Tūhuratanga Tauanga He Toa Tūhura Koe?

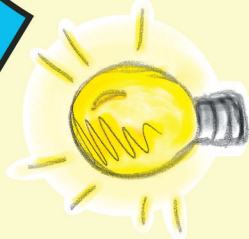
## Kaupapa

- \* kā whiriwhiria te kaupapa
- \* kā whakaaorohia ngā pātai mō te kaupapa hei tūhura



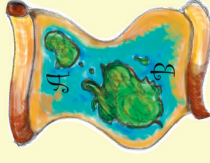
## Whakatau

- \* te whakamāori i ngā raranga
- \* te whakaputa whakatau
- \* te whakatakoto whakaaro hou
- \* te whakaputa kōrero hei whakautu i te pātai i tūhuratia



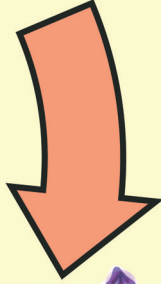
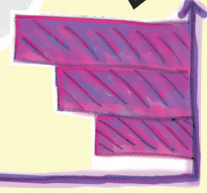
## Whakamāhere

- \* he aha te mea kā inea, me pēhea te ine?
- \* te āhua o te rangahau?
- \* te āhua o te hopu i ngā raranga?
- \* te āhua o te kohikohi i ngā raranga?
- \* he aha ngā tikinga matatika e hāngai ana?



## Tātari

- \* te wehewehe raranga
- \* te hanga whakaari raranga e whaitake ana
- \* te kimi tauira
- \* te whakatakoto whakapae



## Raranga

- \* te kohikohi
- \* te tiaki
- \* te kōmaka

Whakamāhia ai e te toa tūhura  
ngā tikinga o te tūhuratanga tauanga

## Te Tauanga: He Tauira Mahere

Taumata 1	Te Mātauranga Tauanga	Te Whakaoti Rapanga Tauanga	Te Reo Matatini o te Tauanga
Whanaketanga 1a	<p>E mōhio ana ki ētahi momo rōpū rerekē e taea ana mō tētahi huinga, pērā i te tae, te rahi me te pakeke.</p> <p>E mōhio ana ki te whakaatu i te maha o ngā mea kei roto i ia rōpū.</p>	<p>Ka whakarōpū i tētahi huinga i runga i ngā āhuatanga o ngā mea kei roto i te huinga.</p> <p>Ka tatau i te maha o ngā mea kei roto i ia rōpū, hei whakatairite i ngā rōpū.</p>	<p>Ka whakamārama i ngā rōpū.</p> <p>E mōhio ana ki ngā kupu tauanga nei: rōpū, huinga</p>
Whanaketanga 1e	<p>E mōhio ana ki te whakamāori kauwhata whakaahua.</p> <p>E mōhio ana ki te whakahaere i ngā momo pōti hei kohikohi raraunga e pā ana ki tētahi huinga tāngata, pērā i te tatau ringaringa, me te whakamahi kāri raraunga.</p> <p>E mōhio ana ki te kohikohi raraunga ine māmā, pērā i te roa o ētahi rau rākau.</p>	<p>Ka whakatakoto pātai māmā e pā ana ki tētahi kaupapa ka hua mai i te ao o te tamaiti, hei tūhura māna. Hei tauira, ko ngā mea e manakohia ana, pērā i te momo kai, te momo hākinakina rānei.</p> <p>Ka kohikohi raraunga, ka wehewehe, ka whakaatu i ngā raraunga hei whakautu i te pātai.</p>	<p>E mōhio ana ki te whakaatu raraunga ki te kauwhata whakaahua.</p> <p>E mōhio ana ki ngā kupu tauanga nei: raraunga, kauwhata</p>

Taumata 2	Te Mātauranga Tauanga	Te Whakaoti Rapanga Tauanga	Te Reo Matatini o te Tauanga
Whanaketanga 2a	<p>E mōhio ana ki te whakamahi tūtohi māmā hei pupuri, hei whakaatu raraunga.</p> <p>E mōhio ana ki te tārima i ngā raraunga e kohia ana.</p> <p>E mōhio ana ki te wehewehe raraunga ine ki ētahi rōpū māmā, pērā i te</p> <ul style="list-style-type: none"> <li>• nui ake i te ...</li> <li>• kei waenga i te ...</li> <li>• iti ake i te ...</li> </ul>	<p>Ka whakatakoto pātai māmā e pā ana ki tētahi kaupapa ka hua mai i te ao o te tamaiti, hei tūhura māna. Hei tauira, ko te maha o tētahi mea, pērā i te maha o ngā tuākana, teina, tuāhine, tungane rānei o te tangata.</p> <p>Ka kohikohi raraunga, ka wehewehe, ka whakaatu i ngā raraunga hei whakautu i te pātai.</p> <p>Ka whakaputa kōrero mō ngā āhuatanga matua o tētahi huinga raraunga.</p>	<p>E mōhio ana ki te whakaatu raraunga ki te tūtohi māmā.</p> <p>E mōhio ana ki ngā kupu tauanga nei: tūtohi, tārima</p>
Whanaketanga 2e	<p>E mōhio ana ki te whakamāori kauwhata pou, kauwhata ira hoki.</p> <p>E mōhio ana ki te whakatakoto pātai, ki te kōhi raraunga, kia kore ai e mamae e whakaitia rānei tētahi kaiwhakautu. Hei tauira, kia noho matatapu ngā whakautu mō ētahi pātai.</p>	<p>Ka whakatakoto pātai tauanga hei tūhura.</p> <p>Ka kohikohi raraunga, ka wehewehe, ka whakaatu i ngā raraunga hei whakautu i te pātai.</p> <p>Ka whakaputa kōrero mō ngā whakakitenga o te tūhuratanga tauanga.</p>	<p>E mōhio ana ki te whakaatu raraunga ki te kauwhata pou me te kauwhata ira.</p> <p>E mōhio ana ki ngā kupu tauanga nei: kauwhata ira, kauwhata pou, tuaka pae, tuaka pou</p>

Taumata 3	Te Mātauranga Tauanga	Te Whakaoti Rapanga Tauanga	Te Reo Matatini o te Tauanga
Whanaketanga 3a	<p>E mōhio ana ki te whakamāori kauwhata rārangi.</p> <p>E mōhio ana ki kohikohi, ki te whakaatu, ki te whakamārama raraunga ine, raraunga houanga hoki.</p> <p>E mōhio ana ki te whakauru raraunga ki tētahi ripanga rorohiko, me te whakaputa anō i ngā kauwhata e hāngai ana.</p>	<p>Ka whakatakoto pātai tauanga hei tūhura, pērā i te raraunga ine. Hei tauira, ko te paemahana i ia haora o te rā i ētahi wāhi e rua, ko te tāroaroa o tētahi tipu i ia rā o tētahi marama.</p> <p>Ka kohikohi raraunga, ka wehewehe, ka tūhura, ka whakaatu i ngā raraunga hei whakautu i te pātai.</p> <p>Ka whakaputa kōrero mō ngā ia, ngā tauira me ngā āhuatanga kōhure o roto i ngā raraunga.</p> <p>Ka arohaehae i te āhua o te kohikohi me te whakaatu raraunga i tētahi tūhuratanga.</p>	<p>E mōhio ana ki te whakaatu raraunga ki te kauwhata rārangi.</p> <p>E mōhio ana ki ngā kupu tauanga nei: kauwhata rārangi, āhuatanga kōhure, ia, ripanga</p>
Whanaketanga 3e	<p>E mōhio ana ki te whakamāori kauwhata pou hiato, kauwhata rautō, kauwhata rautō hiato, kauwhata porowhita hoki.</p> <p>E mōhio ana ki te kohikohi, ki te whakaatu hoki i ngā raraunga whakarōpū matatini.</p> <p>E mārama ana ki te momo whakaari raraunga e hāngai ana mō tētahi huinga raraunga.</p> <p>E mōhio ana ki te tikanga matatika kia noho matatapu ngā kaiuru o tētahi tūhuratanga tauanga.</p>	<p>Ka whakatakoto pātai tauanga hei tūhura, kia rua, nui ake rānei ngā rōpū me ngā taurangi hei tūhura, pērā i te rerekē o te hunga wāhine me te hunga tāne ki te whiu pōro, ki te whana pōro hoki.</p> <p>Ka kohikohi raraunga, ka wehewehe, ka tūhura, ka whakaatu i ngā raraunga hei whakautu i te pātai.</p> <p>Ka whakaputa kōrero mō te āhua o tētahi huinga raraunga, pērā i ōna rāpoi, tōna hora, me tōna manei.</p> <p>Ka arohaehae i te āhua o te kohikohi me te whakaatu raraunga i tētahi tūhuratanga.</p>	<p>E mōhio ana ki te whakaatu raraunga ki te kauwhata pou hiato, te kauwhata rautō, te kauwhata rautō hiato, me te kauwhata porowhita.</p> <p>E mōhio ana ki ngā kupu tauanga nei: kauwhata pou hiato, kauwhata rautō, mōwaho, manei, rāpoi</p>

Taumata 4	Te Mātauranga Tauanga	Te Whakaoti Rapanga Tauanga	Te Reo Matatini o te Tauanga
Whanaketanga 4a	<p>E mōhio ana ki te whakamāori kauwhata pou whakaapaapa.</p> <p>E mōhio ana ki te whiriwhiri i ngā taurangi me te huarahi kohikohi raraunga e hāngai ana mō tētahi tūhuratanga raraunga.</p> <p>E mōhio ana ki te tātai i ngā wēanga o tētahi huinga raraunga, te tikanga me te whakamahinga o aua wēanga.</p> <p>E mōhio ana ki ngā momo whakaari e kitea ai te hora o ngā raraunga e whakaaturia ana.</p>	<p>Ka whakatakoto pātai tauanga, tāpaetanga kōrero rānei hei tūhura, hei whakatairite i ētahi huinga raraunga e rua.</p> <p>Ka kohikohi raraunga, ka wehewehe, ka tūhura, ka whakaatu i ngā raraunga hei whakautu i te pātai, hei taunaki rānei i te tāpaetanga kōrero.</p> <p>Ka tātai tauanga mō tētahi huinga raraunga, pērā i te toharite, te tau waenga me te tau tānui, ā, ka whakamahia ēnei hei whakaputa kōrero mō te āhua o taua huinga raraunga.</p> <p>Ka arohaehae tūhuratanga tauanga.</p>	<p>E mōhio ana ki te whakaatu raraunga ki te kauwhata pou whakaapaapa.</p> <p>E mōhio ana ki ngā kupu nei: toharite, tau waenga, tau tānui, inenga whānui, tuari, tāpaetanga kōrero, taunaki</p>
Whanaketanga 4e	<p>E mōhio ana ki te whakamāori kauwhata pouhere.</p> <p>E mōhio ana ki te tātari i ngā whakakitenga ka hua mai i tētahi tūhuratanga raraunga.</p> <p>E mōhio ana ki ngā momo whiriwhiringa tipako, pērā i te tipako matapōkere, me te āhei o tētahi tipako ki te whakaatu i te āhua o te taupori e tūhuratia ana.</p> <p>E mōhio ana ki ēnei tikanga matatika:</p> <ul style="list-style-type: none"> <li>• kia whakamōhiotia atu te whakamahinga o ngā raraunga e kohia ana;</li> <li>• kia whakahokia he pūrongo ki ngā kaiuru;</li> <li>• kia kua e haukume te whakaatu i ngā hua o tētahi tūhuratanga tauanga.</li> </ul>	<p>Ka whakatakoto pātai tauanga, tāpaetanga kōrero rānei hei tūhura.</p> <p>Ka kohikohi raraunga, ka tīkina atu rānei he pātengi raraunga kua oti kē te kohikohi, ka wehewehe, ka tūhura, ka whakaatu i ngā raraunga hei whakautu i te pātai, hei taunaki rānei i te tāpaetanga kōrero.</p> <p>Ka tātai, ka whakamahi tauanga hei whakautu i te pātai e tūhurangia ana hei taunaki rānei i te tāpaetanga kōrero.</p> <p>Ka arohaehae tūhuratanga tauanga.</p>	<p>E mōhio ana ki te whakaatu raraunga ki te kauwhata pouhere.</p> <p>E mōhio ana ki ngā kupu nei: taupori, tipako, matapōkere, tōtika, haukume, tikanga matatika, kauwhata pouhere, raraunga motukore</p>

Taumata 5	Te Mātauranga Tauanga	Te Whakaoti Rapanga Tauanga	Te Reo Matatini o te Tauanga
Whanaketanga 5a	<p>E mōhio ana ki ngā momo whakaari raraunga whānui e hāngai ana mō tētahi tūhuratanga raraunga, me te whakamāori anō i aua whakaari.</p> <p>E mōhio ana ki te tikanga matatika kia kaua e haukumea te āhua o ngā pātai o tētahi tūhuratanga tauanga.</p>	<p>Ka whakahaere tūhuratanga tauanga, ka whakamārama, ka parahau i ōna wāhanga katoa.</p> <p>Ka whakaputa kōrero mō te pānga o tētahi taurangi ki tētahi o roto i te tūhuratanga tauanga.</p> <p>Ka arotake i ngā kōrero ka puta i tētahi tūhuratanga tauanga.</p>	<p>E mōhio ana ki te whakaatu raraunga ki te kauwhata marara, me te kauwhata kauamo.</p> <p>E mōhio ana ki ngā kupu nei: hauwhātanga, rāpoi, ia, hora (raraunga).</p>